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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

SEP 12 2003

In re application of:

Morris *et al.*

Appl. No. 09/933,709

Filed: Aug. 22, 2001

For: **Method of Producing Vitamin  
Powders**

Confirmation No.: 6249 **TECH CENTER 1600/2900**

Art Unit: 1615

Examiner: Pulliam, Amy E.

Atty. Docket: 1533.0520001/JAG/LAV

**Declaration of Charles A. Morris Under 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The undersigned, Charles A. Morris, declares and states that:

1. I am a co-inventor of the above-captioned U.S. patent application number 09/933,709, filed August 22, 2001, entitled, "Method of Producing Vitamin Powders."
2. I am employed as Manager of Arkady Research with Archer Daniels Midland, in Olathe, KS, the assignee of record of the above-referenced patent application.
3. I am the subject of the *Curriculum Vitae* attached as **Exhibit A**. On the basis of the information and facts contained in these documents, I submit that I am an expert in the fields of food additives and preservatives, which includes being skilled in the arts of food processing, preservation and extrusion technology.
4. I have read and understand the subject matter of the above-captioned patent application.

5. I have read and understand the Office Action dated April 2, 2003, Paper No. 11, particularly the sections at pages 3-5 in which claims 18-46 have been rejected under 35 U.S.C. §103(a) for obviousness.

6. I have read and understand U.S. Patent No. 4,603,143 to Schmidt (US '143), cited by the Examiner in the rejection under 35 U.S.C. §103(a).

7. **Exhibit B** is a true and authentic copy of page 79 of lab notebook 018, which was created by Lee Willis under my direct supervision at the ADM laboratory facility in Arkady, Kansas. The data contained in **Exhibit B** was collected in the regular course of business as defined by Rule 803(6) of the Federal Rules of Evidence.

8. **Exhibit B** contains data that relates to the flowability and oil absorption of vitamin powders produced with the following commercial silicon dioxide products: Sipernat 22, Syloid 244 FP, Aerosil 200, Sipernat 50, Aerosil R 972, Sipernat 22S, and Sipernat 50S. Micro Cel-C and Hubersorb 600 are not silicon dioxide products, but instead are calcium silicate, therefore they are not relevant to the discussion regarding silica particle size in the production of vitamin powders.

9. The particle sizes, oil absorption, evaluation and acceptance for processing of the silicon dioxide products listed in **Exhibit B** are represented in the chart below:

Name	Size	Oil Absorption	Evaluation	Acceptance for Processing
Syloid 244 FP	3 microns	fair-good	chunky	no
Sipernat 22S	7 microns	good to very good	chunky	no
Sipernat 50S	7.5-8 microns	fair-good	chunky	no
Aerosil 200	12 microns	very good	gritty	yes
Aerosil R 972	16 microns	very good	very gritty	no

Name	Size	Oil Absorption	Evaluation	Acceptance for Processing
Sipernat 50S	50 microns	good	smooth	yes
Sipernat 22	100 microns	very poor	chunky	no

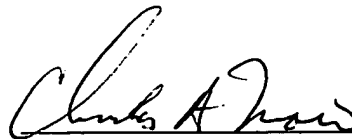
10. **Exhibit B** shows flowability and oil absorption data for vitamin powders produced with silica of sizes ranging from 3 microns to 100 microns. This data shows that of all the silicon dioxide tested, Sipernat 50 (50 microns) produced a "smooth" end product. "Smooth," as used to describe the properties of the vitamin powders in **Exhibit B** indicates that the powder is free-flowing. The "gritty" and "chunky" vitamin powders produced with silicon dioxide outside the 40-50 micron particle size range were not free-flowing as is contemplated by the above-captioned patent application. Thus, the use of silicon dioxide particles within the 40-50 micron size range is necessary to produce the free-flowing vitamin powders of the above-captioned application.

11. Based on the data collected relating to vitamin powders produced with silica particles outside the 40-50 micron size range, it was an unexpected discovery that the 40-50 micron silicon dioxide particle size range was so important to successful production of the free-flowing vitamin powders of the present invention.

12. I have read and understood 37 C.F.R. § 10.18 (b) and (c).

9-4-03

Date



Charles A. Morris

CHARLES ALAN MORRIS  
8408 W. 153rd Street  
Overland Park, Kansas 66223  
(913) 897-5420  
E-mail cmorris14 @ ks.rr.com

**Professional Experience:**

July, 1992 to Present  
Archer Daniels Midland  
Olathe, Kansas

Manager of Arkady Research  
October 2001

ADM Specialty Ingredients Division

Responsible for research for ADM in snack, mix, cereal and bakery areas. Direct R&D effort at Olathe location.

Direct work in laboratory on the development of new ingredients and applications. Provide direct support for customers in the use of ADM ingredients in the bakery, cereal, specialty mix and snack areas. Will support ADM products by providing technical information through presenting seminars and contributing information articles in professional food trade publications.

Technical Service Manager ADM Arkady

Ogilvie Mills Inc. was purchased July 1992 by Archer Daniels Midland. I am the Technical Service contact at ADM Arkady providing technical information for customers interested in wheat starch, wheat gluten, dry honey, dry molasses and enrichments. I direct application work that would use these products in bakery and non-bakery applications. After ADM purchased Ogilvie I worked with ADM's corn processing division in Decatur, I was doing technical service work with ADM's corn sweeteners plus Ogilvie products. Company expert on drum drying starch and sweeteners.

Principal accountabilities:

- Provide technical assistance to national and international customers through correspondence and field trips.
- Direct product application in the development of new products and customer applications.
- Write ingredient specifications for dry sweetener products and starch gluten products.
- Develop product specifications for dry honey and molasses products.
- Write Material Safety Data Sheets.
- Update and produce new product data sheets for food ingredients.
- Development of Quality Control procedures and methods for laboratory.
- Computer coordinator for ADM Arkady.

1985 to July, 1992  
Ogilvie Mills, Inc.  
Minneapolis, MN

Technical Service Manager

Ogilvie Mills, Inc. purchased the Food Ingredients Division of Henkel Corporation in 1985. I worked as Technical Service Manager providing technical service in support of company sales of starch, gluten, Dry honey, dry molasses, dry malt, pea fiber and specialty vitamin blends.

Principal accountabilities:

- Provide technical assistance to national and international customers through correspondence and field trips.
- Direct product application laboratory in the development of new products and customer applications.
- Write ingredient specifications for dry sweetener products.
- Develop product specifications for dry honey and molasses products.

- Write Material Safety Data Sheets.
- Update and produce new product data sheets for food ingredients.

1977 - 1985  
Henkel Corporation  
Minneapolis, MN

General Mills Chemicals, Inc. was purchased by Henkel Corporation. Continued to work in Process Development, food ingredients area. Worked at both production plant and pilot plant levels with wheat starch, gluten and dry honey and dry molasses. Major project was the start-up of new products on single and double roll drum dryer. Work on startup of starch gluten production plant.

1976 - 1977  
General Mills Chemicals, Inc.  
Minneapolis, MN

Developmental Technician - worked in laboratory and pilot plant on new chemical development. Major areas worked in were guar gums, lix reagents and distillation of sterols.

### **Patents**

U.S. Patent 4,501,758 Honey Coated Nuts  
U.S. Patent 4,738,865 Coating Adhesive (food grade)  
U.S. Patent 4,800,097 Dried Nutmeat and Starch Food Product and Process (drum dryer)  
U.S. Patent 4,919,956 Methods for Drying Honey and Molasses (extruder)  
U.S. Patent 4,981,707 Dextrin-Based Food-Grade Adhesive Including Xanthan or Carboxymethylcellulose or Mixtures Thereof  
U.S. Patent 6,303,167 Dry vitamin powder

### **Education**

1975  
University of Tampa  
Tampa, Florida  
Bachelor of Science,           Major: Biology  
  Minor: Chemistry

### **Professional Memberships**

Institute of Food Technology Professional Member  
American Association of Cereal Chemists  
American Society of Bakery Engineers  
American Oil Chemist Society

ADM ARKADY

9137828801 P.01/01

Exhibit B

Appl. No. 09/933,709

Project No. \_\_\_\_\_  
Book No. 018

79

Vitalax - 60

Page No. \_\_\_\_\_

Purpose To determine if we can produce a product similar to Do-Crust-60 from Breda

Do Crust-60 Ingrid Legend, EOM, wheat flour, &amp; Silicon Dioxide

	#1	#2	#3	#4	#5	#6	#7	#8
Ethoxylated Mono	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Wheat Flour	20.0	30.0	20.0	20.0	20.0	20.0	10.0	15.0
Aerasil 200	20.0	—	—	—	—	—	—	—
Sylgard 244	—	10.0	—	—	—	20.0	—	—
Sipernat 50	—	—	20.0	—	—	—	—	25.0
Sipernat 22	—	—	—	20.0	—	—	—	—
Calcium Silicate	—	—	—	—	20.0	—	30.0	—
	**	**	**	**	**	**	OK	OK

\* Would not prep well, too cakey

\* Would not process very well in production

Oil absorption Evaluation (3:1, oil/carrier)

	<u>Oil absorption</u>	<u>acceptance for processing</u>
Sipernat 22	V. Poor, chunky	No
Micro Cel-C	Good, some clark	Yes
Sylgard 244FP	Fair - Good, chunky	No
Aerasil 200	Very Good, gritty	Yes +
Sipernat 50	Good, smooth	Yes +
Aerasil 8932	V. Good, very gritty	No
Sipernat 225	Good - V. Good, chunky	No
Sipernat 505	Fair - Good, chunky	No
Hulsorck 600	Very Good, sh. gritty	Yes +

	#9
Ethoxylated Mono	25.0%
Sipernat 50	25.0

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TOTAL P.01